



Application No. 09/972,268
Declaration under 37 CFR 1.131

3101-A

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Application No: 09/972,268
Applicants: Peter R. Baum, William C. Fanslow III, Timothy E. Lofton,
Eric A. Sorensen, and Adel Youakim
Filed: October 5, 2001
Title: NECTIN POLYPEPTIDES
TC/Art Unit: 1644
Examiner: Maher M. Haddad
Docket No.: 3101-A

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

DECLARATION UNDER 37 C.F.R. § 1.131

We, Peter R. Baum, William C. Fanslow III, Timothy E. Lofton, Eric A. Sorensen, and Adel Youakim, the undersigned, hereby declare that:

1. This Declaration is made by the inventors of the above-captioned patent application in order to establish a date of invention in the United States prior to April 1, 2000.

2. Prior to April 1, 2000, a DNA clone that encodes human nectin-3 polypeptide (also called "B7L4" polypeptide) had been isolated and its sequence determined in the United States by inventors named in the subject application, as evidenced by the Exhibits A and B enclosed herewith. The works described in Exhibits A and B were completed in this country prior to April 1, 2000.

3. Exhibit A is a copy of a page from one of the laboratory notebooks of Eric A. Sorensen, written in his handwriting, describing a restriction enzyme digest of an isolated lambda phage clone called "HuB7L4 11-1". All dates on the copy have been redacted.

4. Exhibit B (eight pages) is a copy of a computer printout that is incorporated into one of the laboratory notebooks of Eric A. Sorensen, showing the results of the sequencing of the HuB7L4 11-1 clone insert that was performed at the direction of Eric A. Sorensen. The amino acid sequence shown below the corresponding nucleotide sequences is that of human nectin-3 as presented in SEQ ID NO:2 of the above-captioned application (and is identical to amino acids 8 through 549 of SEQ ID NOs 4 and 6). The first page of Exhibit B indicates the location of a predicted signal sequence cleavage site, and the fourth page of Exhibit B indicates the location of the start of the transmembrane domain. All dates on the copy have been redacted.

5. Therefore, on a date prior to April 1, 2000, the inventors of the above-captioned application had determined the amino acid sequence of a human nectin-3 polypeptide including the extracellular domain of a mature form of human nectin-3.

6. As a person signing below: I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

Peter R. Baum
Peter R. Baum

Date: July 7, 2003

William C. Fanslow III
William C. Fanslow III

Date: June 23, 2003

Timothy E. Lofton
Timothy E. Lofton

Date: 23 JUNE 2003

Eric A. Sorensen
Eric A. Sorensen

Date: June 24, 2003

Adel Yeruakim
Adel Yeruakim

Date: June 24, 2003

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Φ DNA for HvB7C4 phage 11-1 and 13 (from kB library)
sat in PEG for the 3 weeks I was on vacation.

Spun out Washed x 3 w/ 70% EtOH. Spd vac'd
out heat. Resuspended o/n in 60 d H₂O.



Scanned JUL 10 2003 Digest Φ DNAs w/ EcoRI (NEB, m2, buffer) and NtI (NEB, buffer, b6)

- 1.) Φ DNA 11-1 w/ EcoRI
- 2.) " " w/ NtI
- 3.) Φ DNA 13 w/ EcoRI
- 4.) " " w/ NtI

4 L Φ DNA

1.5 L 10x buffer

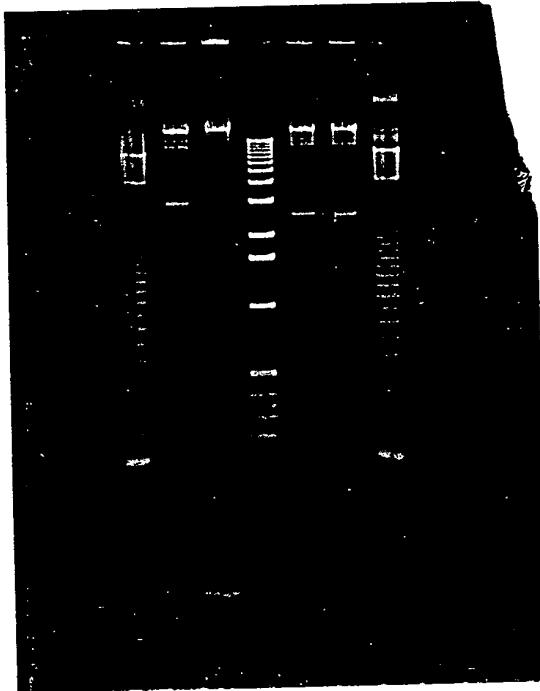
.5 L enzyme

9 L H₂O

37 °C 60-90'

11-1 (c) 95.5 µg/ml

13 (c) 57.7 µg/ml



7055 p. 80 208

RESULTS:

According to this gel, the clone #13 is way small compared to what I estimated by gel electrophoresis. I guess I'll see what the DNA size is and I'm going to subclone the EcoRI fragment into pBS.

To Page No. 8

Witnessed & Understood by me,

Barry M. Smith

Date

Invented by

Recorded by

Date

(Linear) (MinSite=6) MAP of: hub714-11.seq check: 8088 from: 1 to: 3187

HuB7L4 #11 from KB library clone #11-1. Phage DNA: NOT CONFIRMED
sr6527 R. Sorensen
/bertlesj/sorensen/sr6527/hub7l4-11.seq
8139,8140,DPC#9117-20,12233-34,12759-60,12801
HuB7L4-11
With 164 enzymes: *

A circular U.S. Patent and Trademark Office stamp. The outer ring contains the letters 'O I P E' at the top and 'PATENT & TRADEMARK OFFICE' at the bottom. The center of the stamp contains the date 'JUL 10 2003'. On the right side of the center, the number '1617' is printed vertically.

34356-->SalI-GCGGGCATGGCCCGGACCCCCGGCCCC-

V-D -A G M A R T P G P 34053 →
 CAAAGAATT CGCGCCGCTGTCCCCGCTGTGTCCCTGGAGGGGGCAAAGCACAAC TTTCC
 1 -----+-----+-----+-----+-----+-----+-----+ 60
 GTTTCTTAAGCGCCGGCGACAGGGGGACACAGGACCTCCCGTTCTGTGAAAGG
 S P L C P G G G K A Q L S -

a

S P L C P G G G K A Q L S -

```

a      L L L F P L L L F S R L C G A L A G P I -
Predicted signal seq. Cleavage ^
          NspI
          AfI
          BspLU11I
          |
          ATTGTGGAGCCACATGTCACAGCAGTATGGGGAAAGAATGTTCATTAAGTGTTAATT
          |
          MsI
181 -----+-----+-----+-----+-----+-----+-----+-----+ 240

```

7-85 C 8

TAACACCTCGGTGTACAGTGTCTGCATACCCCTTCTTACAAAGTAATTTCACAAATTAA
 ← 34054
 a I V E P H V T A V W G K N V S L K C L I -

33686 →
 GAAGTAAATGAAACCATAACACAGATTCATGGGAGAAGATACTGGCAAAAGTTCACAG
 241 -----+-----+-----+-----+-----+-----+-----+-----+ 300
 CTTCATTTACTTGGTATTGTCTAAAGTACCCCTCTATGTACCGTTCAAGTGTGTC
 a E V N E T I T Q I S W E K I H G K S S Q -

XcmI AloI EarI
 | | |
 ACTGTTGCAGTCACCATCCCCAATATGGATTCTCTGTCAAGGAGAATATCAGGGAAGA
 301 -----+-----+-----+-----+-----+-----+-----+ 360
 TGACAACGTCAAGTGGTAGGGGTATACTAAGAGACAAGTTCTCTATAGTCCCTCT
 ← 33685
 a T V A V H H P Q Y G F S V Q G E Y Q G R -

DraI
 |
 GTCTTGTAAAAATTACTCACTTAATGATGCAACAATTACTCTGCATAACATAGGATT
 361 -----+-----+-----+-----+-----+-----+-----+ 420
 CAGAACAAATTAAATGAGTGAATTACTACGTTGTTAATGAGACGTATTGTATCCTAAG
 a V L F K N Y S L N D A T I T L H N I G F -

BmrI
 |
 TCTGATTCTGGAAAATACATCTGCAAAGCTGTTACATTCCGCTTGAAATGCCAGTCC
 421 -----+-----+-----+-----+-----+-----+-----+ 480
 AGACTAAGACCTTTATGTAGACGTTGACAATGTAAGGGCGAACCTTACGGTCAGG
 ← 33687
 a S D S G K Y I C K A V T F P L G N A Q S -

TCTACAACGTAACTGTGTTAGTTAACCCACTGTGAGCCTGATAAAAGGGCCAGATTCT
 481 -----+-----+-----+-----+-----+-----+-----+ 540
 AGATGTTGACATTGACACAATCAACTGGGTGACACTCGGACTATTTCCGGCTAAGA
 a S T T V T V L V E P T V S L I K G P D S -

AlwNI
 |
 TTAATTGATGGAGGAAATGAAACAGTAGCAGCCATTGCATCGCAGCCACTGGAAAACCC
 541 -----+-----+-----+-----+-----+-----+-----+ 600
 AATTAACTACCTCCTTACTTGTACCGTCGGTAAACGTAGCGTCGGTGACCTTTGGGG
 a L I D G G N E T V A A I C I A A T G K P -

BmrI
 32121 → |
 GTTGCACATATTGACTGGGAAGGTGATCTGGTGAAATGGAATCCACTACAACCTCTTT
 601 -----+-----+-----+-----+-----+-----+-----+ 660
 CAACGTGTATAACTGACCCCTCCACTAGAACCACTTACCTTAGGTGATGTTGAAGAAAA
 ← 33688
 a V A H I D W E G D L G E M E S T T T S F -

TatI

|

661 CCAAATGAAACGGCAACGATTATCAGCCAGTACAAGCTATTCCAACCAGATTGCTAGA 720

a GTTTACTTTGCCGTTGCTAATAGTCGGTCATGTTCGATAAAGGTTGGCTAAACGATCT

P N E T A T I I S Q Y K L F P T R F A R -

MmeI BsbI StyI

| | |

721 GGAAGGCGAATTACTTGTGTTGAAAAACATCCAGCCTGGAAAAGGACATCCGATACTCT 780

CCTTCGCTTAATGAACACAAACATTTGTTAGGTCGGAACCTTTCTGTAGGCTATGAGA

← 32122

a G R R I T C V V K H P A L E K D I R Y S -

Eco57I

|

781 TTCAATTAGACATACAGTATGCTCCTGAAGTTGGTAACAGGATATGATGGAAATTGG 840

a AAGTATAATCTGTATGTCATACGAGGACTTCAGCCATTGTCCTATACTACCTTTAAC

F I L D I Q Y A P E V S V T G Y D G N W -

BsaBI MmeI

| |

841 TTTGTAGGAAGAAAAGGTGTTAATCTCAAATGTAATGCTGATGCAAATCCACCAACCTTC 900

a AACATCCTCTTTCCACAATTAGAGTTACATTACGACTACGTTAGGTGGTGGAAAG

F V G R K G V N L K C N A D A N P P P F -

BspMI Eco57I

| |

901 AAATCTGTGGAGCAGGTTGGATGGACAATGCCCTGATGGTTATTGGCTTCAGACAAT 960

a TTTAGACACACCTCGTCCAACCTACCTGTTACGGACTACCAAATAACCGAAGTCTGTTA

K S V W S R L D G Q W P D G L L A S D N -

HaeI

| |

961 ACTCTTCATTTGTCCATCCATTGACTTCAATTATTCTGGTGTATATCTGAAAGTG 1020

a TGAGAAGTAAACAGGTAGGTAACGTAAAGTTAATAAGACCAACAAATAGACATTCACT

T L H F V H P L T F N Y S G V Y I C K V -

EarI

|

1021 ACTCTTCATTTGTCCATCCATTGACTTCAATTATTCTGGTGTATATCTGAAAGTG 1080

a TGTTAAGGGAACCGAGTTCTTCACTGGTTTCAGTAGATGTAAGTCTAGGAGGATGA

T N S L G Q R S D Q K V I Y I S D P P T -

StyI DrdI BstYI Eco57I

| | | |

1021 ACCAATTCCCTGGTCAAAGAAGTGACCAAAAGTCATCTACATTCAGATCCTCCTACT

a TGGTTAAGGGAACCGAGTTCTTCACTGGTTTCAGTAGATGTAAGTCTAGGAGGATGA

T N S L G Q R S D Q K V I Y I S D P P T -

BstYI

|

1081 ACTACCACCCCTTCAGCCTACAATTCACTGGCATCCCTCAACTGCTGACATCGAGGATCTA 1140
 a T T T L Q P T I Q W H P S T A D I E D L -

HincII

|

1141 GCAACAGAACCTAAAAATTGCCCTCCCATTGTCACCTTGGCAACAATTAAAGGATGAC 1200
 a CTTGTCTTGGATTTAAACGGGAAGGGTAACAGTTGAAACCGTTGTTAATTCTACTG
 a T E P K K L P F P L S T L A T I K D D -

TaqII

|

MunI BsrDI (Bgl2) 1201 ACAATTGCCACGATCATTGCTAGTGTAGTGGGTGGGCTCTCTCATAGTACTTGTAAAGT 1260
 a T I A T I I A S V V G G A L F I V L V S -

BanII

|

Bsp1286I 1261 TGTTAACGGTGCTAGTAACGATCACATACCCACCCCGAGAGAAGTATCATGAACATTCA 1320
 a V L A G I F C Y R R R R T F R G D Y F A -

TatI

|

EarI 1321 AAGAACTACATTCCACCATCAGATATGCAAAAGAAATCACAAATAGATGTTCTCAACAA 1380
 a T T C T G A T G T A A G G T G G T A G T C T A C G T T T C T T A G T G T T A T C A C A A G A A G T T G T T
 a K N Y I P P S D M Q K E S Q I D V L Q Q -

ScaI

|

Bsp24I 1381 GATGAGCTTGTATTCTTACCCAGACAGTGTAAAAAGAAAACAAAATCCAGTGAACAAAT 1440
 a C T A C T C G A A C T A A G A A T G G G T C T G T C A C A T T T T T C T T G T T T A G G T C A C T T G T T A
 a D E L D S Y P D S V K K E N K N P V N N -

Bsp24I

|

SspI SfcI BbsI 1441 C T A A T A C G T A A A G A C T A T T A G A A G A G C T G A A A A A C T C A G T G G A A C A A T G T A G A A A A T
 a G A T T A T G C A T T C T G A T A A A T C T T C T C G G A C T T T T T G A G T C A C C T G T T A C A T C T T T A
 a L I R K D Y L E E P E K T Q W N N V E N -

Bsp24I

|

1500

ACAGAGTTCTAAATTAAAATTACGTCTCATGAAATAACCACACTCCGTGTGCCATTCT
 HincII | ApoI | DraI |
 1921 AGAAAATGTCAACATTAAATGTATGACTTACTTGGTACAAAAATTTTTAAAAAGGAACT
 TCTTTACAGTTGTAATTACATACTGAATGAACCATGTTTAAAAAATTTCCTTGA 1980

Tth111II
 Bce83I | SmlI |
 1981 ACCTTGACATTGTGTATTAAATGTTACCTAAGACTATAATCTCAAGTATGATGTTGTT
 TGGAACCTGTAACACATAATTACAAATGGATTCTGATATTAGAGTTCTACTACAAACAA 2040

BtsI
 HaeIV
 ApoI | Hin4I |
 2041 TAACATATACCTCTCAAAATTATCACCCTCAATGACACTGCATCAAAATTGACTATAA
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SspI | SspI |
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Tth111II
 2161 GAATGGCTTCCTTTCAAACATTATTTCTAAGTTCTATACAAATGAAATCTTACCT
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MsI | VspI | SfcI |
 2221 CTGCATATTAATGAGCCTGCCATAATTACTGTAGAGTGGCTTTCAAAGATATTTGTT
 GACGTATAATTACTCGGAACGGTATTAAATGACATCTCACCGAAAAGTTCTATAAAACAA 2280

EarI
 SapI |
 2281 GCACTAAAATGTGGTAGAAACTCAGTGAACATGATGTGGAAAGAGCATAATTAGCTG
 CGTGATTTGACACCATCTTGAGTCACTTGACTACACACCTCTCGTATTAATCGAC 2340

SspI | BspMI |
 2341 GTCAATATTTGTCCAAAATACCTGCAAGAGTAATAAAATACATACCTTCAAACATGA
 CAGTTATAAAAACAGGTTATGGACGTTCTCATTATTTATGTATGGAAAGTTGACT 2400

Tth111I
 |
 TAATTATTAGTTTTTTTCTGGAACATGGATTTGGTACATTAGCAGTAGCCT
 2401 -----+-----+-----+-----+-----+-----+-----+-----+ 2460
 ATTAATAATCAAAAAAAAAGGAAAGACCTGTACCTAAAACCATGTAATCGTCATCGGA

TATTTTAATGCTTTATGTCCTAACATACTAATAGAAATGAAAAGACGCAGAGAGCAT
 2461 -----+-----+-----+-----+-----+-----+-----+-----+ 2520
 ATAAAATTACGAAATACAGGATTGTATGATTATCTTACTTTCTGCGTCTCTCGTA

SpeI
 ScaI
 TatI ||| Eco57I SfcI ApoI
 | ||| | |
 TTCGGAATACTGAAGTACTAGTTAGAAATGAGACTTCAGCCAACAATCTATAGAAAG
 2521 -----+-----+-----+-----+-----+-----+-----+-----+ 2580
 AAGCCTTATGACTTCATGATCAAAATCTTACTCTGAAAGTCGGTTAGATATCTTC

BsrGI
 TatI
 |
 AATTTTATGGACCATCTGTTAGTTATTAATGTTGATGTTGTTCAAATGGTAAATG
 2581 -----+-----+-----+-----+-----+-----+-----+-----+ 2640
 TTAAAATACCTGGTAGAACAAAATCAATAAATTACAACACTACAACAAGTTACCCATTAC

ApoI
 |
 TACAGAAAGAAAATTTAGAGTAACTTGGAACTTGATATAACTAGAAAAACTAGAT
 2641 -----+-----+-----+-----+-----+-----+-----+-----+ 2700
 ATGTCTTCTTTAAAATCTCATTGAAACCTTGAACCTTGAACCTATATTGATCTTTGATCTA

BsmI
 |
 TATAGAATTAGTCGTAACACTTGTAAATGGACATTGGCATTTCATCTCCTTTCCCT
 2701 -----+-----+-----+-----+-----+-----+-----+-----+ 2760
 ATATCTTAATCAGCCATTGTGAACGATTACCTGTAACCGTAAGTAGAGGAAAAGGAGGA

AAGTGTATGTATGTGTTAACGATTCTGTTTACGATTAACGGAAACATGAGGTT
 2761 -----+-----+-----+-----+-----+-----+-----+-----+ 2820
 TTACACATACACACAAAATTCTAAAGACAAAAATGCTAATTTGACCTTGTACTCCAA

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 2821 -----+-----+-----+-----+-----+-----+-----+-----+ 2880
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Tth111I SfcI
 | |
 AAAGAAATGTTACCTAAACCTCAAATGTGCTTTGTTGTGAGGTAATTAAATTGCTTC
 2881 -----+-----+-----+-----+-----+-----+-----+-----+ 2940
 TTTCTTACAATGGATTGAAGTTACACGAAAACAAACACTCCATTAAATTAAACGAAG

TACAGTGGAGGCTTACAAAATTATTGTGACAACATTGGAGCTGAAAGGATAGTTTT
 2941 -----+-----+-----+-----+-----+-----+-----+-----+ 3000
 ATGTCACCTCCGAATGTTTAATAACACTGGTATAAAACTTCGACTTCCTATCAAAAA

 CTATTGCTAAGTCATTGAAAAAGTGACCATTGCCCCAGTGAAATGAAGTGGAAAGTTAGT
 3001 -----+-----+-----+-----+-----+-----+-----+-----+ 3060
 GATAACGATTTCAGTAAACTTTCACTGGTAAAACGGTCACTTACTCACCTTCAATCA

 AGGAGAATCATAAATTAAATATATTATTTGTTAATAAAAGGCAAAGTAGTAGGTACTT
 3061 -----+-----+-----+-----+-----+-----+-----+-----+ 3120
 TCCTCTTAGTATTTAATTATATAATAAAACAATTATTTCCGTTCATCCATGAA

Enzymes that do cut:

AfI	I	II	III	AloI	AlwNI	ApoI	BanI	BanII	BbsI	Bce83I
BclI		BglII		BmrI		BplI		BpmI		
BsaHI		BsaXI		BsbI		BseRI		BsiEI		BsaAI
BspGI	Bsp	LU11I	I	BspMI		BsrDI		BsrGI		Bsp24I
DrdI		DrdII		EaeI		EagI		EarI		BtsI
HaeI		HaeIV		Hin4I		HincII		HindIII		DraI
MunI		NotI		NspI		PstI		SapI		EcoRI
SnaBI		SpeI		SspI		StyI		SwaI		GdIII
VspI		XbaI						TaqII		MspAI
									TatI	SmlI
									Tth111I	

Enzymes that do not cut

AarI	AatII	AccI	AceIII	AclI	AfI _{II}	AhdI	ApaI
ApalI	AscI	AvaI	AvrII	BaeI	BamHI	BbvCI	BcgI
BcI _{VI}	BglI	BmgI	Bpu1102I	BsaI	BsaWI	BseSI	BsgI
BsiHKAI	BsmBI	BspEI	BsrBI	BsrFI	BssHII	BssSI	BstAPI
BstDSI	BstEII	BstXI	BstZ17I	Bsu36I	ClaI	DraIII	EciI
Eco47III	EcoNI	EcoO109I	EcoRV	FseI	FspI	HaeII	HgiEII
HpaI	KpnI	MluI	MscI	NarI	NcoI	NdeI	NgoAIV
NheI	NruI	NsiI	NspV	PacI	Pfl1108I	PflMI	PinAI
PmeI	PmlI	PpiI	PshAI	Psp5II	PvuI	PvuII	RcaI
RleAI	RsrII	SacI	SacII	SalI	SanDI	SbfI	SexAI
SfiI	SgfI	SgrAI	SmaI	SphI	SrfI	Sse8647I	StuI
SuNI	Tth111I	XbaI	XhoI	XmnI			